Table 3
Unsustainability of Unilateral Rules and Proposed Remedies in a More Competitive Industry

Current Policy	Is Policy Sustainable?	Remedy if Needed
Asymmetric unilateral rules in general.	No.	Apply unilateral rules symmetrically.
Cross-subsidies as symmetric unilateral requirements.	No. Symmetry not enforceable.	Replace with bilateral agreement if sunk cost exposure not large. Replace with bilateral commitment otherwise.
Common carrier obligation as symmetric unilateral rule.	No. Symmetry not enforceable.	Replace with bilateral agreement if sunk cost exposure not large. Replace with bilateral commitment otherwise.
Lifeline, Linkup as symmetric unilateral rules.	No. Symmetry probably not enforceable.	Bilateral agreements should work.
Carrier of last resort obligations as symmetric unilateral rules.	No. Conditions for symmetric application not yet satisfied and enforceability doubtful.	Bilateral commitment until technology & competitive situation change.

C. Managing the Transition to a More Competitive Industry

Section III.B showed that, due to the nature of current technology and the uneven pace with which competitive alternatives are emerging for different geographic regions and customer classes, bilateral commitments are likely to be an important component of telecommunications regulation for some time to come. In other words, we are not yet to the point where we can completely dispense with the old regulatory contract and it is unclear when that day will come. Thus the credibility of the promises a regulatory agency may make as a party to a bilateral commitment with regulated firms will continue to be important to its ability to get needed compliance from service providers in the future. This means that for purely practical reasons, independent of moral obligations, regulators cannot casually disregard the financial implications of prior (often implicit) commitments to regulated

firms made under the old regulatory bargain. The terms of that bargain must be kept in mind even as it is being rewritten.

In the next section we argue that one way to manage a successful transition to competition is to move from reliance on entry barriers to a broader application of legal, constitutional principles which limit government action due to preexisting circumstances. Most notable of these principles is that of regulatory takings under the U.S. Constitution's Takings and Due Process Clauses, which provide for government compensation to private parties or invalidation of government rules for those government actions which constitute a confiscation of private property. An expeditious use of takings law may prove to be a better mechanism for providing regulated firms with the assurance required for them to undertake substantial sunk investments during periods when the prospect of rapid and unpredictable regulatory change dramatically increases their vulnerability and makes risks difficult to assess.[28] By reducing the risks associated with regulatory promises, applications of takings principles would reduce the costs of securing bilateral commitments from service providers in the future.

Economic analysis of takings law shows that an optimal takings rule balances the tradeoff between the benefits of encouraging the government to take private property (or infringe on other well-defined economic rights) and the need to give private citizens incentives to commit to activities that will be beneficial when there is no taking.[29] While the same kind of considerations arise in the transition from one regulatory regime to another governed by very different rules, the telecommunications literature provides little guidance as to how the general principles should be applied in any specific instance in which neither the regulator nor the regulated firms can clearly articulate the implicit understanding on guarantees of security for investments that governed their relationship before. Legal rules for handling similar problems under takings law have evolved through precedent over time. The next section reviews and builds on the logic underlying these rules, as well as other legal principles which limit government action due to its effects on preexisting circumstances of private parties, to develop a legal

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[28] This assumes, of course, that regulators prefer not to pay the risk premium that would be required to compensate service providers for a heightened risk that investments will be lost due to future changes in regulatory policy.

[29] Hermalin, "An Economic Analysis of Takings," 11 Journal of Law, Economics, & Organization 64-86 (1995).

framework for managing the transition to more competitive telecommunications markets.

IV. Constitutional Principles for Permissible Economic Regulation

The typology presented in Section II, based in large part on understanding the underlying concepts of compatibility and sustainability through economic analysis, is also supported by the legal history of economic regulation in the United States. This can be best seen by review of cases interpreting various clauses of the United States Constitution and similar clauses of various State Constitutions. This is because the federal and state constitutions set forth the parameters by which all the branches[30] of governments may operate, both enabling and prohibiting certain governmental actions. As a result, judicial interpretation of the U.S. and State Constitutions ultimately determine the scope of permissible government regulation.

As will be shown, judicial interpretation of various constitutional clauses reveals limitations on governments' use of unilateral and bilateral rules. These limitations are necessary to address various sustainability and equity problems arising in different contexts. Such contexts include the effect of action by a single unit of government, either prospectively or retroactively, and the combined effect of actions by more than one unit of government. These contexts also include whether the harmful effects of government action poses sustainability problems merely on a prospective basis or as the result of preexisting circumstances.

A. Takings and Due Process Clauses

1. General Application

One of the fundamental limits on actions by both federal and state governments is that government may not take private property for public use in the absence of just compensation. This prohibition applies to the federal government through the Takings Clause of the Fifth Amendment of the U.S.

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[30] The branches of government consist of the legislative, judicial and executive branches. It also includes the activities of administrative agencies which have been created and to which governmental authority has been delegated.

Constitution, which provides in relevant part: "nor shall private property be taken for public use, without just compensation." Although the Fifth Amendment does not directly apply to state governments, it has been held applicable to them by virtue of the Due Process Clause of the Fourteenth Amendment,[31] which provides that "no person shall be . . . deprived of life, liberty or property, without due process of law . . . . "

The U.S. Supreme Court has stated that the purpose of the Takings Clause is "to bar Government from forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole."[32] But principles to determine in a given situation whether a "taking" has occurred and what compensation, if any, is appropriate has proven to be elusive and the jurisprudence confusing.[33] However, recent cases have contributed to at least an improved understanding of the law in this area.[34] Although indication of all the nuances of takings jurisprudence is beyond the scope of this paper, the current interpretation of the Takings Clause can be summarized as follows.

The Takings Clause, as applied to the federal government and the states through the Due Process Clause of the Fourteenth Amendment, applies whether the government is utilizing its eminent domain or police powers.[35] When the police power is at issue, the question is whether or not a regulatory taking has occurred. As to the exercise of either powers, government action may either be invalidated or be permitted but with compensation paid to the owner of private property in question. Whether invalidation or compensation is required, in either case a violation of the Takings Clause has occurred.

There are several tests to implement in determining whether invalidation or compensation is required. First, invalidation of governmental action occurs if the exercise of power does not satisfy a rational relationship test, that is, only if the exercise of power does not bear any

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31 See Missouri Pacific Ry. v. Nebraska, 164 U.S. 403, 417 (1896); Chicago, B. & Q. R.R. v. Chicago, 166 U.S. 226, 241 (1897).

32 Armstrong v. United States, 364 U.S. 40, 49 (1960).

33 See Lunney, "A Critical Reexamination of the Takings Jurisprudence," 90 Mich. L. Rev. 1892-1964 (1992).

34 See Delaney, "What Does It Take to Make a Take? A Post-*Dolan* Look at the Evolution of Regulatory taking Jurisprudence in the Supreme Court," 27 The Urban Lawyer 56-69 (1995).

35 See Fawcett, "Eminent Domain, the Police Power, and the Fifth Amendment: Defining the Domain of the Takings Analysis," 47 U. Pitts. L. Rev. 491-515 (1986).

reasonable relationship to one of government's implied or enumerated powers.[36] This test has been rarely construed so as to invalidate governmental action. Second, a taking, for which either invalidation or compensation is required, occurs if the government exercise of police power or eminent domain (1) does not substantially advance a legitimate state interest, or (2) denies the owner of economically viable use of the property. Separate tests are used to make determinations under either scenario.[37] In the former case, invalidation is the remedy. But, of particular interest here are the tests to be met for the latter case, where the owner is denied economically viable use of the property. In this regard, the "categorical rule" means that a physical invasion of private property or a regulation that denies all economically beneficial or productive use of land is *per se* a taking requiring compensation.[38] In all other cases, a "non-categorical rule" applies for which invalidation is required, where the following factors are considered: (1) the character of the government action; (2) the economic impact of the regulation upon the claimant; and (3) the extent to which the regulation has interfered with distinct investment-backed expectations.[39] A number of regulations have been held to be invalid under the equivalent of this non-categorical rule.[40] However, the vast majority of regulations have

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36 See Hawaii Housing Authority v. Midkiff, 467 U.S. 229 (1984).

37 See Delaney, *supra* note 34.

38 The categorical rule is the basis under which the exercise of eminent domain requires compensation as well as those regulatory actions which approximate the use of eminent domain. See Fawcett, *supra* note 35.

39 See Penn Central Transp. Co. v. New York City, 438 U.S. 104 (1978); Pennsylvania Coal Co. v. Mahon, 260 U.S. 393 (1922).

40 See Dolan v. City of Tigard, 114 S. Ct. 2309 (1994) (invalidated city's requirements that landowner dedicate certain amount of land for pubic greenway and pedestrian/bicycle pathway in exchange for approval of application to expand her store); Ruckelshaus v Monsanto Co., 467 U.S. 986 (1984) (invalidated change in EPA rule as to disclosure of health, safety, and environmental data as to data submitted by claimant prior to such change in the rule); Armstrong v. United States, 364 U.S. 40 (1960) (invalidated state action that transferred title of vessels to government that had effect of vitiating liens held by suppliers for nonpayment of supplies); Pennsylvania Coal Co. v. Mahon, 260 U.S. 393 (1922) (invalidated state statute that forbade any mining of coal that caused subsidence of any house by a coal company which had reserved ability to mine coal in previously entered contracts as to sale of surface rights). *But cf.* Keystone Bituminous Coal Association v. DeBenedictis, 480 U.S. 470 (1987) (case distinguished from Pennsylvania Coal because the petitioners did not claim that the statute makes it commercially impracticable to continue their mining operations).

been upheld as not constituting "takings" under the Fifth or Fourteenth Amendments.[41]

As stated earlier, according to the U.S. Supreme Court, the purpose of the Takings Clause is to prevent private parties from bearing unjust and unfair public burdens which should be borne by the public as a whole. Economists, however, have also stressed that the Takings Clause plays an important economic role by encouraging efficient investment and ensuring a sustainable property rights system. Without a Takings Clause, government may ignore or externalize the costs of its regulations, uncompensated[42] takings will inefficiently discourage investments, and the uncertainty of government action will undermine property investments. Although commentators disagree as to the tests or tools that the courts should use in applying the Takings Clause in a particular case in order to best assure economic efficiency, they are in agreement as to the need for the existence of the Takings Clause to ensure efficient investments and a sustainable property rights system.[43]

Thus, the Takings Clause places a limit on unilateral action, or a unilateral rule, by either federal or state governments. When a taking is found, then the unilateral action of the government is either invalidated or converted to a bilateral action in which compensation is paid to the property owner.

2. Application to Public Utilities

"Constitutional review of utility ratemaking is considered a specialized subset of the broader field of judicial review of regulatory takings."[44] In

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41 For general discussion, *see* Lunney, *supra* note 33; Fawcett, *supra* note 35. For specific cases, *see, e.g.*, Pennell v. City of San Jose, 485 U.S. 1 (1988) (rent control ordinance); Penn Central Transp Co. v. New York City, 438 U.S. 104 (1978) (landmark law restricting use of air rights); Nebbia v. New York, 291 U.S. 502 (1934) (price fixing of milk); Munn v. Illinois, 94 U.S. 113 (1876) (government regulation of prices).

42 Compensation for a taking could consist of money, the opportunity to purchase insurance against takings, or the opportunity for property owners to purchase exemptions from takings from the government.

43 See "Note, Taking Back Takings: A Coasean Approach to Regulation," 106 Harv. L. Rev. 914-931 (1993); "Note, Resurrecting Economic Rights: The Doctrine of Economic Due Process Reconsidered," 103 Harv. L. Rev. 1363-1383 (1990); Ackerman, "Against Ad Hocery: A Comment on Michelman." 88 Colum. L. Rev. 1697-1711 (1988); Blume & Rubinfeld, "Compensation for Takings: An Economic Analysis," 72 Calif. L. Rev. 569-623 (1984);

44 Pierce, "Public Utility Regulatory Takings: Should the Judiciary Attempt to Police the Political Institutions?" 77 Geo. L. I. 2031, 2033 (1989).

Munn v Illinois,[45] the U.S. Supreme Court held that government regulation of prices was generally constitutional. However, subsequent cases have shown that a specific test for determining whether there has been a regulatory taking must be applied in the context of utility ratemaking.[46] "The guiding principle has been that the Constitution protects utilities from being limited to a charge for their property serving the public which is so 'unjust' as to be confiscatory."[47] Thus, the key concept is that ratemaking regulation which is confiscatory will be invalidated as a taking under the Fifth and Fourteenth Amendments.

Although there have been twists and turns by the Court in determining when regulation is confiscatory, the current law is governed by the holdings in FPC v. Hope Natural Gas Co.,[48] and Duquesne Light Co. v. Barasch.[49] The ratemaking process requires a balance between investor and consumer interests:

> "[T]he investor interest has a legitimate concern with the financial integrity of the company whose rates are being regulated. From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business . . . . [T]he return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital."[50]

In determining whether rates are just and reasonable in light of investor interests, an "end result" test is applied, in which the overall impact of the rate order, not the particular methodology of setting rates, is evaluated.[51] Considerations in applying this test include what is a fair rate of return given the risks under a particular rate-setting system; the amount of

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45 94 U.S. 113 (1876).

46 See Pierce, *supra* note 44; and Madden, "Takings Clause Analysis of Utility Ratemaking Decisions: Measuring Hope's Investor Interest Factor," 58 Fordham L. Rev. 427-446 (1989).

47 Duquesne Light Co. v. Barasch, 488 U.S. 299, 307 (1989), *quoting*, Covington & Lexington Turnpike Road Co. v. Sandford, 164 U.S. 578, 597 (1896).

48 320 U.S. 591 (1944).

49 488 U.S. 299 (1989).

50 FPC v. Hope, 320 U.S. at 603.

51 488 U.S. at 310; 320 U.S. at 602. However, the Court did not find the ratemaking actions to be confiscatory in either of these cases.

capital upon which investors are entitled to earn the return; and whether rates jeopardize the financial integrity of the company.

Thus, the application of regulatory taking analysis in the utility ratemaking context emphasizes the need to ensure that the overall effect of the ratemaking action does not threaten the financial viability of the regulated utility. Financial viability of the firm is consistent with a notion of sustainability that is concerned with the intracompany effects of regulation so that the regulated utility can remain viable and thus continue provision of the underlying activity (i.e. the provision of the utility service).

This particular view of sustainability, however, is different from that of the more general application of the Takings Clause discussed above in that the latter primarily addresses the viability of the underlying property system as opposed to the viability of a particular firm. This is because, as described earlier, the ratemaking function of the government has traditionally resided in the context of a bilateral rule, namely, a bilateral commitment, between the government and the utility. In essence, a regulatory taking in the public utility context means that the *quid pro quo* to the utility is severely inadequate.

B. Equal Protection Clause

1. General Application

A further fundamental limit placed on actions by state governments is found under the Equal Protection Clause of the Fourteenth Amendment of the U.S. Constitution, which provides that no State shall "deny to any person within its jurisdiction the equal protection of the laws." Violation of the Equal Protection Clause results in invalidation of the state action. Equal protection jurisprudence has a long, sometimes convoluted history, but to date equal protection analysis consists of three levels of scrutiny.[52] The level of scrutiny applied depends upon the type of classification created by the statute in question.

The lowest level of scrutiny, minimum rational scrutiny, applies to ordinary economic and social classifications and requires only that there be a rational relationship to a legitimate governmental purpose. Under this level

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[52] See "Note, Justice Stevens' Equal Protection Jurisprudence," 100 Harv. L. Rev. 1146-1165 (1987).

of scrutiny, great deference is given to state statutes and practically any conceivable basis for the classification has been upheld.[53]

The highest level of scrutiny, strict scrutiny, is applied when a classification is found to be "suspect". Suspect classifications are found: (1) if a fully suspect class exists; or (2) a classification infringes on the exercise of a "fundamental right". In practice, the U.S. Supreme Court has found fully suspect only those classifications based on race or ancestral group, and fundamental rights to include only the right to interstate travel, the right to equal voting participation in election, the right to access to courts in some circumstances, and the right to procreate. Under strict scrutiny, the classification is upheld if it is narrowly tailored to meet a compelling governmental interest. In practice, this strict scrutiny results in virtually automatic invalidation of the classification.[54]

The third level of scrutiny is an intermediate one between that of the prior two. Known as intermediate scrutiny. It applies when classifications are "semisuspect" or "quasi-suspect", usually those based on gender or illegitimacy. Under intermediate scrutiny, the classification is upheld if it is substantially related to an important governmental objective. This level of scrutiny was established after the prior two types, and was first used explicitly by the Court in Craig v. Boren.[55] As implied by its label, intermediate scrutiny results in fewer invalidations than under strict scrutiny but more than under minimum rational scrutiny.[56]

2. Application to Public Utilities

a. Unilateral rules. Application of equal protection analysis to public utilities is of particular interest here. Recently, in MCI Telecommunications Corp. v. Limbach,[57] the Ohio Supreme Court held that the tax commissioner violated the Equal Protection clauses under both the U.S. and Ohio Constitutions by overvaluing MCI's property vis-a-vis the property of telecommunications resellers under the state property law. The differences in valuation arose because the tax commissioner considered the property of MCI to be that of a public utility, to which a 100% valuation applied, but

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53 For a general discussion of minimum rational scrutiny, *see* Note, *supra* note 52 at 1147-1148.
54 For a general discussion of strict scrutiny, *see* Note, *supra* note 52 at 1147-1149.
55 429 U.S. 190 (1976).
56 For a general discussion of intermediate scrutiny, *see* Note, *supra* note 52 at 1149-1150.
57 68 Ohio St. 3d 195 (1994).

considered the property of resellers to be that of a general business, to which a 31% valuation applied. The court found that since the Ohio Public Utilities Commission treated facilities-based carriers and resellers the same, then "two taxpayers within the same class owning or leasing the same type of equipment are treated differently, and this treatment denies MCI equal protection of the laws."[58]

The same result was reached earlier in a tax case in Wisconsin. In GTE Sprint Communications Corp. v Wisconsin Bell,[59] the Wisconsin Supreme Court held that a statute that imposed a retail sales tax on the sale of access telephone services to an interLATA carrier denied equal protection to that interLATA carrier because the tax was not imposed on furnishing the same services to resellers.

Both of these cases require equal treatment in taxation, a unilateral rule, between similarly situated competitors. Although not expressly stated, to permit asymmetric treatment would potentially have an adverse effect on the financial viability of the disadvantaged competitor.

The U.S. Supreme Court has also invalidated state or municipal fees imposed on utilities as a violation of equal protection or due process of the laws, but based on a different factual configuration. In Postal Telegraph-Cable Co. v. Borough of Taylor, [60] the Court held that an ordinance which imposed a fee on the poles and wires of interstate telegraph companies was invalid because there was no actual relationship between the fee and its stated purpose, to cover the costs of inspection, and the amount bore no reasonable relationship to costs associated with inspection. In essence, the fee was actually a revenue raising measure and therefore invalid. The Court noted that to uphold the fee:

> ". . . is to say that . . . the court must take it as such and hold it valid, although resulting in a rate of taxation which, if carried out throughout the country, would bankrupt the company were it added to the other taxes properly assessed for revenue and paid by the company."[61]

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58 68 Ohio St. 3d at 200.
59 155 Wis 2d 184 (1990).
60 192 U.S. 64 (1904).
61 192 U.S. at 72.

In this context, the Court is referring to the financial viability of the firm itself, not to viability of a firm vis-a-vis its competitors, with regard to taxation, which is a unilateral rule. Thus, state and municipal governments must not be permitted to assess revenue raising measures, in the guise of regulation and inspection fees, on public utilities, since the effect could be to bankrupt a firm due to the cumulative effect of other fees if other state and municipal governments were to do likewise.

Similarly, although upholding the state statute in question, in Great Northern Ry. Co. v. Washington[62] the Court stated that a regulatory and inspection fee assessed on public utilities could violate the Equal Protection and Due Process Clauses of the U.S. Constitution if the fee is not reasonably related to the costs of regulation and inspection. Thus, a unilateral rule may be invalid because there is no relationship between the financial burden of the rule and its stated purpose, without consideration of its potential cumulative effect if similar burdens were imposed by other governmental units.

b. Bilateral rules. The holdings in both Postal Telegraph-Cable Co. v. Borough of Taylor and Great Northern Ry. Co. v. Washington applied to unilateral rules, in that the governmental units were imposing a tax or fee on public utilities without any corresponding benefit conferred on the utilities. However, a similar holding was made by the Illinois Supreme Court in a case involving a bilateral arrangement, where the governmental unit sought compensation in exchange for granting access to public right of way to telephone companies. In AT&T v. The Village of Arlington Heights,[63] the court held that when a telephone company seeks a municipality's consent to construct facilities along or under municipal streets, the municipality may not unreasonably withhold consent. As compensation for a municipality's regulatory interest in the public streets, the payment to which a municipality is entitled "should only cover actual costs, including inspection, regulatory, administrative and repair costs associated with the tunneling under public streets."[64] To require payment of a toll, such as a fee based on a percentage of gross revenues of the telephone company, as a means of raising revenue is an improper reason for a municipality to withhold consent. Noting the

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62 300 U.S. 154 (1937).
63 620 N.E. 2d 1040 (Ill. Sup. Ct. 1993).
64 620 at 1046.

cumulative effect if tolls were permitted, the court stated that "[i]f each of these governmental units had the right to charge tolls for conduits going under and over their streets, the effect would amount to legalized extortion and a crippling of communication and commerce as we know it."[65] However, in contrast to the U. S. Supreme Court in Postal Telegraph-Cable Co. v. Borough of Taylor, the Illinois Supreme Court was referring to the cumulative effect on the communications industry, not just one firm within the industry.

The implication of AT&T v. The Village of Arlington Heights is also that asymmetry in the compensation required of utilities in the context of the bilateral arrangement is limited. Since the payments made by utilities for use of the public streets should only cover actual costs incurred by the municipality for such use, then utilities which are similarly situated as to such costs must end up paying similar amounts.

Thus, the application of equal protection analysis to public utilities means that the financial burden of a levy required to be paid by the utility to the government, whether under a unilateral or bilateral rule, must be symmetrically applied. Furthermore, the burden must bear a reasonable relationship to its stated purpose, not only for its application by one governmental unit on an individual firm, but for its application by many governmental units where the cumulative effect of similar financial burdens could threaten the viability of a firm or potentially cripple the industry subject to the burden.

C. Supremacy Clause

1. General Application

Another form of limitation on actions by state government is found under the Supremacy Clause of the U.S Constitution, which provides that "This Constitution, and the Laws of the United States which shall be made in Pursuance thereof . . . shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the Contrary notwithstanding."[66] The Supremacy Clause

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[65] 620 at 1044.

[66] U.S. Constitution, art. VI, cl. 2. The federal government also has supremacy over the States with regard to interstate commerce under the Commerce Clause, which provides that "The

subordinates state government action to that of the federal government, which has been applied by the courts through a doctrine known as federal preemption.

The U.S. Supreme Court has found that federal preemption applies in three situations[67]: (1) preemption is express where Congress has expressly preempted state law by federal statute; (2) preemption is implied where Congress intended to occupy an entire field and preclude state efforts to regulate in that area; and (3) preemption occurs when federal and state laws or regulations actually conflict so that compliance with both is impossible. Under these three situations, numerous state and local government actions have been invalidated. Examples include invalidation of various unilateral rules, such as a tax[68], an anti-takeover statute[69], a noise abatement ordinance[70], and a wage law.[71]

Although the Supremacy Clause does serve a function for equity and fairness, as with the Takings Clause, it also fulfills an important economic role of encouraging efficient investment through the provision of certainty that the federal government's laws and regulations prevail over those of the state under the above preemption situations. However, the primary function of the Supremacy Clause is to provide for the sustainability of federal policies.

2. Application to Public Utilities

Of particular interest here is how federal preemption under the Supremacy Clause has been applied to the regulation of public utilities in the impossibility situation where federal and state regulations conflict. In this regard, an important line of cases is based on the filed rate doctrine, which provides that rates filed with or set by the relevant federal commission must be given binding effect by state utility commissions in determining intrastate rates.[72]

Congress shall have Power . . . [t]o regulate Commerce with foreign Nations, and among the several States . . . . " U.S. Constitution, art. I, sec. 8, cl. 3.

[67] See Comment, "Emergency Offsite Planning for Nuclear Power Plants: Federal versus State and Local Control," 37 Am. U. L. Rev. 417- 451 (1988); Comment, "Unilateral Tariff Exculpation in the Era of Competitive Telecommunications," 41 Cath. U. L. Rev. 907-941 (1992).

[68] Exxon Corp. v Hunt, 475 U.S. 355, 375 (1986).

[69] Edgar v. MITE Corp., 457 U.S. 624, 639 (1982).

[70] City of Burbank v. Lockheed Air Terminal, 411 U.S. 624, 633 (1973).

[71] Perry v. Thomas, 482 U.S. 483, 492 (1987).

[72] See Nantahala Power & Light Co. v. Thornburg, 476 U.S. 953, 962-964 (1986); Montana-Dakota Utilities Co. v. Northwestern Public Service Co., 341 U.S. 246, 251-252 (1951).

Under the filed rate doctrine, in Nantahala Power & Light Co v. Thornburg,[73] the U.S. Supreme Court invalidated an order of the North Carolina Utilities Commission which set retail rates based on the conclusion that the Nantahala Power & Light Co. should have included more of the low-cost FERC regulated power than it in fact can under the Federal Energy Regulatory Commission's (FERC) order. The Court stated that:

> "The filed rate doctrine ensures that sellers of wholesale power governed by FERC can recover the costs incurred by their payment of just and reasonable FERC-set rates. When FERC sets a rate between a seller of power and a wholesaler-as-buyer, a State may not exercise its undoubted jurisdiction over retail sales to prevent the wholesaler-as-seller from recovering the costs of paying the FERC-approved rate. *Such a 'trapping' of costs is prohibited.* Here, Nantahala cannot fully recover its costs of purchasing at the FERC-approved rate if NCUC's order is allowed to stand."[74]

Similarly, in Mississippi Power & Light Co. v. Moore,[75] the Court held that the Mississippi Public Service Commission was preempted from inquiring into the prudence of management decisions that led to construction and completion of a nuclear power plant where FERC had already required the Mississippi Power & Light Co. to purchase a portion of that nuclear power plant's output at rates determined by FERC to be just and reasonable. This holding was required in order to prevent a "trapping" of costs.

This prohibition as to the trapping of costs protects the utility from financial viability problems which would otherwise result from conflicting or inconsistent federal and state commission actions. Thus, the Supremacy Clause has been interpreted so that "impossible compliance" includes financial unsustainability of the utility with respect to conflicting regulatory actions across federal and state agencies. In this context, it is important to note that the conflict arises from actions taken by commissions pursuant to existing bilateral arrangements - economic regulatory contracts - between the commissions and the utility.

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[73] 476 U.S. 953 (1986).
[74] 476 U.S. at 970 (1986) (citations omitted; emphasis added).
[75] 487 U.S. 354 (1988).

D. Contract Clause

An additional limitation placed uniquely on legislative actions[76] by state governments is found under the Contract Clause of the U.S. Constitution, which provides that "No State shall . . . pass any . . . Law impairing the Obligations of Contracts."[77] The policy underlying the Contract Clause is that:

> "Contract rights deserve special protection because they are perhaps the one property interest that is most closely related to allocative efficiency and the growth of commerce. They represent resources in transition. ... Like the taking clause, it includes an element of equity -- retroactive laws are unfair -- and, like the commerce clause, an element of efficiency -- interference with commerce by individual states reduces the size of the national economic pie."[78]

This clause has been held to be applicable to impairment of both private and public contracts[79], the distinction being that the State is a party to the contract in the latter case but not the former. In either case the same standard is applied, but more stringently in the case of public contracts, and the remedy is invalidation of the state law.[80]

"Although the language of the Contract Clause is facially absolute, its prohibition must be accommodated to the inherent police power of the State 'to safeguard the vital interests of its people'."[81] Thus, in determining whether a State has violated the Contract Clause, the courts attempt to balance the Contract Clause with the State's interest in exercising its policy

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[76] For a discussion as to the applicability of the Contract Clause as to judicial decisions, as opposed to legislative actions, see Thompson, "The History of the Judicial Impairment 'Doctrine' and Its Lessons for the Contract Clause," 44 Stan. L. Rev. 1373 (1992).

[77] U.S. Constitution, art. I, sec. 10, cl. 1.

[78] Clarke, "The Contract Clause: A Basis For Limited Judicial Review of State Economic Regulation," 39 U. Miami L. Rev. 183-255, 186 (1985) (footnote omitted).

[79] Public contracts include charters and licenses. See Trustees of Dartmouth College v. Woodward, 17 U.S. 518 (1819).

[80] See "Note, Takings Law and the Contract Clause: A Takings Law Approach to Legislative Modifications of Public Contracts," 36 Stan. L. Rev. 1447-1484 (1984).

[81] Energy Reserves Group, Inc. v. Kansas Power & Light Co., 459 U.S. 400, 410 (1983), *quoting*, Home Bldg. & Loan Ass'n v. Blaisdell, 290 U.S. 398,434 (1934).

power. Under current law there is a two-step process by which this balancing occurs.[82]

First, the claimant must show that the state law has substantially impaired the claimant's contractual obligations. This step requires that the alleged contractual impairment violate the reasonable expectations of the parties to the contract. In this regard, whether or not a party to the contract is a member of a heavily regulated industry may be important.[83]

Only if impairment is found does the court then proceed to the second step, which is to determine whether the state's law is necessary and reasonable to serve an important public purpose. It is this second step which is applied differently to private and public contracts.[84] For situations involving private contracts, complete deference is given to the State's legislative judgment as to the necessity and reasonableness of a particular legislative measure. However, for situations involving public contracts, such complete deference is not appropriate because the State's self-interest is involved. Thus, as to public contracts, the court will also assess such questions as: (1) was a more moderate approach available; and (2) was the state action reasonable in light of surrounding circumstances. Overall, the "State is not completely free to consider impairing the obligations of its own contracts on a par with other policy alternatives."[85]

Given this distinction between private and public contracts, it is also necessary to determine when a contract is public or not. The court must first determine whether the State had the ability to enter into an agreement that limits its power to act in the future. This is known as the reserved power doctrine, under which certain powers can not be contracted away.[86] If a reserved power is involved then there is no public contract, otherwise, analysis then proceeds based on the following premise, "that absent some clear indication that the legislature intends to bind itself contractually, the presumption is that 'a law is not intended to create private contractual or

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[82] See Energy Reserves Group v. Kansas P. & L. Co., 459 U.S. 400 (1983); United States Trust Co. v. New Jersey, 431 U.S. 1 (1977).

[83] See Energy Reserves Group v. Kansas P & L Co., 459 U.S. at 415-416 (ERG knew its contractual rights were subject to alteration by state price regulation of the gas prices of the other party to the contract).

[84] See United States Trust v. New Jersey, 431 U.S. at 25-26.

[85] 431 U.S. at 30-31.

[86] 431 U.S. at 23-25 (the State can not contract away eminent domain and police powers, but may contract away the future exercise of taxing and spending powers).

vested rights but merely declares a policy to be pursued until the legislature shall ordain otherwise.' "[87] In this regard, the Court initially examines the language of the statute. If the statute provides for execution of a contract on behalf of the State, then the obligation to bind the State is clear and there is a public contract.[88] In the absence of clear language, the court determines whether the circumstances of the statute's passage indicate intent to contract away governmental powers. However, the court will not lightly construe a scheme of public regulation to also be a contract to which the State is a party.[89]

Under the case law, state laws attempting to alter contract rights or contract remedies of antecedent private contracts, such as in debtor or mortgage situations, have been invalidated. [90] However, in more recent years the Court has been increasingly reluctant to invalidate state laws as impairing private contracts.[91]

As to public contracts, impermissible state laws impairing contracts have arisen most frequently in the context of municipal bonds. The most significant case in this regard is United Trust Co. v. New Jersey,[92] where the state attempted to revoke covenants contained in municipal bonds. It has also arisen in situtations where the government is a party to contracts, such as a land sale[93] or employment contract.[94]

Thus, the Contract Clause places limits on state legislation in order to prevent substantial impairment of existing private, but particularly public, contractual obligations.[95] Such limits on retroactive actions are needed to

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[87] National Railroad Passenger Corp. v. Atchison, Topeka & Santa Fe Railway Co., 470 U.S. 451 465-466 (1985) *quoting*, Dodge v. Board of Education, 302 U.S. 74, 79 (1937).

[88] See United States Trust Co. v. New Jersey, 431 U.S. 1 (1977) (public contract found where State "covenanted agreed" to place a limit on its ability to revocate certain obligations to bondholders).

[89] National Railroad v. Atchinson, 470 U.S. at 467. In fact, the existence of pervasive prior regulation of railroads was an important reason for the Court's finding no public contract in this case.

[90] For a general discussion, see Olken, "Charles Evans Hughes and the Blaisdell Decision: a Historical Study of Contract Clause Jurisprudence," 72 Or. L. Rev. 513-602 (1993).

[91] Energy Reserves Group, Inc. v. Kansas Power & Light Co., 459 U.S. 400 (1983); Exxon Corp. v. Eagerton, 103 S. Ct. 2296 (1983). For a general discussion, see Clarke, *supra* note 78.

[92] 431 U.S. 1 (1977)

[93] El Paso v. Simmons, 379 U.S. 497 (1965).

[94] Indiana ex rel. Anderson v. Brand, 303 U.S. 95 (1938).

[95] Contracts themselves may be unilateral or bilateral in nature between the parties. "A unilateral contract is one in which one part y makes an express engagement or undertakes a performance, without receiving in return any express engagement or promise of performance from the other. Bilateral (or reciprocal) contracts are those by which the parties expressly enter

give implicit or explicit assurances of contractual security and to prevent the State from upsetting expectations unfairly. Consequently, similar to the Takings Clause, the Contract Clause functions to support the underlying property rights system.[96] Although, practically speaking, parties seek protection of property rights more frequently under the Takings and Due Process Clauses.[97] In this way, at least in severe cases, the impact of inconsistent or conflicting obligations under contract and state statutes are addressed.

E. Ex Post Facto Laws

Finally, of interest here, a constitutional limit on both federal and state government actions is the prohibition of the passage of ex post facto laws. The prohibition applicable to the federal government states that "No bill of Attainder or ex post facto Law shall be passed."[98] Similarly, the prohibition applicable to the States provides that "No State shall . . . pass any Bill of Attainder, [or] ex post facto Law . . . ."[99] In essence, this prohibition prevents the passage of retroactively applicable legislation where an action done before the passing of the law, which was innocent when done, becomes criminal and punishment is imposed for such action.[100] Historical review of the Constitutional framers' intent as to the ex post facto prohibition indicates that its purpose is to provide fair notice of the laws to citizens, to prevent the creation of statutes that are not universally applicable but designed to be applicable to a particular person, and to prevent abusive legislation often used as tools by tyrants to achieve politically motivated results.[101]

Ex post facto criminal laws are invalid, however, only those civil laws which are unmistakably punitive are invalid. In determining whether a civil law is unmistakably punitive, the court considers: (1) relevancy of the statute;

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into mutual engagements, such as sale or hire." Black's Law Dictionary, 4th ed. revised, 14th reprint, St. Paul, MN: West Publishing Co. (1976), p. 397.

96 In fact, some argue that, with public contracts, contract clause problems are merely variations of the takings problem. *See , e.g.*, Note, *supra* note 80, at 1477.

97 See Clarke, *supra* note 78.

98 U.S. Constitution, art. I, sec. 9, cl. 3.

99 U.S. Constitution, art. I, sec. 10, cl. 1.

100 For a fuller description of the types of ex post facto laws, see Calder v. Bull, 3 U.S. 386 (1798).

101 See Aiken, "Ex Post Facto in the Civil Context: Unbridled Punishment," 81 Ky. L. J. 323, 327-330 (1993).

(2) whether the statute is directed toward the person rather than the thing to be regulated; and (3) whether the law's effect was avoidable. However, in reviewing such questions, there is a presumption of legitimacy of the law which must be overcome.[102] Civil statutes which have been invalidated as ex post facto laws include a number of laws that prevented entry into certain professions by persons due to their political involvements or previous status as a felon.[103] Civil laws, however, have only infrequently been invalidated.

Thus, generally, governments are free to pass laws that establish certain actions by persons as criminal or subject to civil fines or forfeitures. The limitation on such punitive, unilateral rules is the extent to which they may be retroactively applied in order to provide fair notice of laws to citizens, to prevent laws from being designed so as to be applicable to particular persons rather than universally, and to prevent abusive legislation.

F. Effects of Multiple Constitutional Provisions

The previously discussed Constitutional provisions are by no means the only ones enabling or limiting federal or state governmental actions,[104] however, they do provide critical insights in terms of the typology presented here. The cumulative effect of these provisions is that both federal and state governments have extensive powers to impose requirements on otherwise unregulated activities for virtually any legitimate governmental purpose. As a result, governments have been able to create numerous forms of regulatory interventions. Such interventions include the imposition of unilateral rules on all entities engaged in diverse activities, such as found with antitrust laws, environmental laws, work safety and health standards, price and output controls, taxes, fines, licensing, and permits. Other interventions consist of the imposition of bilateral rules, most notably those found in the context of bilateral commitments which are unique to providers of certain activities, such as the extensive regulation applied to providers of utility services.

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102 See Aiken, *supra* note 101 at 336-341.

103 See Aiken, *supra note* 101 at 330, n. 35.

104 To discuss all Constitutional provisions would be prohibitive and is beyond the scope of this paper. However, another Constitutional provision of importance to the telecommunications industry is the the First Amendment which provides that "Congress shall make no law ... abridging the freedom of speech ...." But this provision is not relevant to the economic sustainability issues discussed here.

However, many forms of governmental interventions are not permitted for equity and fairness reasons as well as their tendency to create compatibility and, specifically, sustainability problems. The interventions prohibited under Constitutional Clauses, as previously discussed, are summarized in Table 4.

As indicated in Table 4, concepts of equity and fairness underlie all of the Constitutional provisions. However, some of the Clauses specifically address different types of sustainability problems. Some relate to the need to generally support economic investments of individuals and firms that are rooted in the underlying property rights system, as exemplified by the discussion as to the Takings, Due Process, and Contract Clauses, respectively.

Other sustainability problems relate to the financial viability of a specific firm. In the case of public utilities, the Takings Clause ensures financial viability of the utility with regard to changes in regulation by a given governmental unit by prohibiting confiscation; the Equal Protection Clause ensures equal treatment with regard to the application of a specific regulation of a governmental unit between similarly situated, competing utilities by requiring equal tax treatment; and the Supremacy Clause ensures the financial viability of a utility by preventing "trapping" of costs between conflicting regulations between federal and state governmental units.

Still other sustainability problems relate to the financial viability of an industry. This is exemplified by the cases discussed under the Equal Protection Clause. The viability of an industry may be affected by the cumulative financial burden imposed by multiple governmental units acting similarly, or by the financial burden imposed by a single governmental unit where there is no relationship between the burden of the rule and its stated purpose.

TABLE 4
Constitutional Limits on Government Action

Constitutional Clause	Government Relationship to Utility	Government Action Subject to Limitation	Economic/Social Problem	Government Action Prohibited	Remedy
Takings & Due Process Clauses (5th & 14th Amendments)	fed or state govt <----> utility	unilateral or bilateral rule	equity & fairness; sustainability of property rights system	confiscation	invalidation of federal or state action; or conversion of unilateral rule to bilateral rule through provision of compensation
Equal Protection Clause	(a) state <----> utility <----> competitor	(a) asymmetric application of unilateral or bilateral rule	(a) equity & fairness; interfirm or interindustry sustainability	(a) disparate treatment with competitor	(a) symmetric application of state action
	(b) state <----> utility	(b) unilateral or bilateral rule	(b) equity & fairness; could lead to cumulative burden problem under (c)	(b) no relationship between financial burden of rule and its stated purpose	(b) invalidation of state action
	(c) state 1 <----> state 2 <----> utility state 3 <---->	(c) cumulative unilateral or bilateral rules	(c) equity & fairness; sustainability of firm or industry	(c) no relationship between financial burden of rule and its stated purpose, and unreasonable cumulative financial burden	(c) invalidation of state action

Supremacy (& Commerce) Clause	fed <----> utility state <----> utility	conflicting unilateral or bilateral rules between state and federal governments	equity & fairness; sustainability of federal policy; sustainability of firm	interference with federal policy; trapping of costs of firm	invalidation of state action (i.e. federal preemption)
Contract Clause	state 1 or private <----> utility party (at time period 1) utility <---- state 1 (at time period 2)	state impairment with preexisting private contracts or its own public contracts	equity & fairness; sustainability of property rights system	substantial impairment of contractual obligations which is not necessary or reasonable to serve a public purpose	invalidation of federal or state action
Ex Post Facto	fed or state ----> utility govt (at time period 1) utility <---- fed or state govt (at time period 2)	application of new, punitive unilateral rules to prior conduct	equity & fairness	unfair notice of laws to citizens; laws applicable only to a particular person; abusive legislation	invalidation of retroactive rule

V. Augmenting the Application of the Framework to U.S. Universal Service Policy Through Use of Constitutional Principles

The results of the legal review discussed in Section IV and depicted in Table 4 can also be reorganized so as to show constitutional limitations on unilateral and bilateral rules. In particular, the following Tables 5 and 6 are reorganizations which show the limits on rules due to their long-term prospective effects and their transitionary effects based on preexisting circumstances, respectively. We start with Table 5.

TABLE 5
Constitutional Limits on Unilateral and Bilateral Rules Based on Prospective Effects

Government Action Subject to Limitation Regardless of Preexisting Circumstances	Threat to Sustainability	Remedy	Constitutional Clause
Asymmetric unilateral or bilateral rule.	Interfirm or interindustry sustainability.	Apply rule symmetrically.	Equal Protection Clause.
Single unilateral or bilateral rule.	Sustainability of firm or industry if it could lead to following multiple rule problem.	Invalidation of rule.	Equal Protection Clause.
Multiple, similar unilateral or bilateral rules applied to one firm or industry.	Sustainability of firm or industry.	Invalidation of rule.	Equal Protection Clause.

Table 5 summarizes the results of the legal analysis in terms of constitutional limitations on government actions where the threats to sustainability are essentially the result of only prospective effects which are independent of preexisting circumstances, such as prior investment. These are the limitations imposed by the Equal Protection Clause. Similarly, Table 3

in Section III summarizes the results of the earlier, economic analysis in terms of the sustainability of certain requirements with competition, again without regard to transitionary issues. The first entry in Table 5, concerning the asymmetric imposition or application of government actions between similarly situated firms, produces the same result derived from the economic analysis depicted by the first entry in Table 3. Both legal and economic analysis consider such asymmetry to be a threat to interfirm or even interindustry sustainability;[105] however, the breadth of circumstances under which asymmetry is problematic under the economic analysis is greater than that under the Equal Protection Clause.

The rest of Table 5 shows that the legal analysis introduces another threat to sustainability which needs to be considered, which was not discussed in Section III. This concerns the effect of similar rules imposed by multiple governmental units, where the cumulative effect is to threaten the sustainability of a firm or industry. The cumulative burden of taxes or fees, where the financial burden imposed bears no relationship to its stated purpose, is a particular problem. Moreover, the combined effect of asymmetry and cumulative taxes or fees may determine the future viability of some forms of communications technology.[106] As a result, future economic regulation of the communications industry will require closer scrutiny of and coordination between multiple governmental units and their treatment of industries that, although once distinct, are now converging.

On the other hand, the rest of Table 3 sets forth several sustainability problems not found under the legal analysis. These problems concern the unsustainability of various unilateral rules that, although imposed symmetrically, would likely not be sustainable with competition in the telecommunications industry. In some cases, it is due to the fundamentally

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[105] Other papers on the subject of asymmetric v. symmetric regulation in the telecommunications industry have dealt with efficiency implications but have ignored the sustainability issues addressed here. See, e.g., Weisman, D.L., "Asymmetrical regulation: Principles for emerging competition in local service markets," 18 Telecommunications Policy 499-505 (1994); Schankerman, M, "Symmetric Regulation for a Competitive Era," Paper prepared for the Twenty-Sixth Annual Conference Institute of Public Utilities in Williamsburg, VA (December, 1994); Haring, J., "Implications of Asymmetric Regulation for Competition Policy Analysis," Office of Policy and Plans Working Paper Series No. 14, Federal Communications Commission (December, 1984).

[106] In fact, the disparate tax burden - driven by the cumulative effect of disparate federal, state and local taxes - between video dialtone and cable services greatly affects the competitiveness between the services in many geographic areas.

unremunerative nature of these unilateral rules, such as cross-subsidies and carrier of last resort obligations. In others, it is due to the inability to enforce the unilateral rules symmetrically so that compliance is likely to be asymmetric, such as with common carrier obligations and low income assistance. There is no parallel provision among the constitutional clauses discussed in this paper to address these types of sustainability problems. Currently, there appears to be no legal remedy to prevent imposition of unilateral rules posing these types of problems, although arguably one might be able to seek a broader interpretation of the Equal Protection Clause to remedy the form of asymmetry resulting from asymmetry in compliance. But most important, the economic analysis in Section III reveals the necessity of replacing unilateral rules with bilateral ones where the vulnerability to expropriation of investment is based on the rule, such as due to sunk costs. Due to the various sovereignty powers of governmental units, it will be difficult to achieve such bilateral rules, particularly as part of judicial remedies.

Next we consider Table 6, which summarizes the results constitutional limitations on government actions where the threats to sustainability are the result of their transitionary effects arising from preexisting circumstances.

TABLE 6
Constitutional Limits on Unilateral and Bilateral Rules Based on Preexisting Circumstances

Government Action Subject to Limitation Due to Preexisting Circumstances	Preexisting Circumstances	Threat to Sustainability	Remedy	Constitutional Clause
Unilateral or bilateral rule.	Existing property investment; investment based on existing bilateral commitment.	Sustainability of property rights system; sustainability of existing bilateral commitment.	Invalidation of rule; or conversion of unilateral rule to a bilateral rule.	Takings & Due Process Clauses.